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THE CONDUCT OF THE FOURTEENTH CENSUS*

By WILLIAM M. STEUART, *Assistant Director of Census*

The debate in Congress attending the enactment of the law establishing a permanent census office, the discussions in statistical organizations, and newspaper and magazine articles are conclusive that the purpose of the law was (1) to advance and perfect the publications of the decennial census; (2) to assist in the elimination of the duplication in the statistical work of the various bureaus of the federal government.

We are now principally concerned with the first of these objects. A large force, approaching 100,000 supervisors, inspectors, clerks, agents, and enumerators, is suddenly turned loose on the country to collect important data concerning the inhabitants and their industries. The force is scattered over a vast territory with more complex social and industrial conditions than exist in any other country of the world. The period of employment is short, and the rate of pay is not attractive. No compensation can be allowed for preparatory work or study of instructions. Comparatively few of the persons engaged can come into personal contact with the administrative staff. The territory to be covered by each employee must be definitely described, and he must be familiar with it and with his instructions, so as to commence work on a fixed date. It is futile to expect such a force to be organized and fully equipped unless there is a well-organized staff and ample time is allowed for preparatory work. Naturally, the best organization cannot be secured unless the head of the Bureau has had some experience in the organization of a census. Otherwise, he cannot appreciate the relative importance of the various processes, or estimate the time at which they should be finished in order to begin other processes upon which the results depend. General Francis A. Walker was superintendent of the censuses of 1870 and 1880, but since then each census has had a different director. Some of the directors had had wide administrative experience but a very limited knowledge of statistics. Others were eminent statisticians but had had little administrative experience. It may be impossible to secure a man who has had proper experience in both fields. At any rate, service through at least one census is necessary to a proper conception of the work. Unless the head of the office has a clear vision of the magnitude and ramifications of a census, it

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will be almost impossible for him to perfect an organization in advance of the work.

PREPARATORY WORK

Changes in the census law that always have been, and I suppose always will be, made prior to the taking of each census affect the scope and character of the inquiries and the general conduct of the work. The office is in ignorance of these changes until all the provisions of the law are finally decided. The law for the Fourteenth Census was not approved until March 3, 1919, and the census period commenced the following July. The appropriation for the work was not available until July 1, and, technically, no work could be done until after that date. There was, of course, an implied understanding that the permanent force of the office would or could be employed on the preliminary work for the decennial census in advance of the census period; but other duties were imposed upon the Bureau in connection with war activities and intercensal investigations that made it impossible to give proper attention to the preliminary organization for the decennial census. There was thus a constant pressure to postpone this organization. The result was that when the time for the actual enumeration arrived not all the enumeration districts had been established, some of the blanks had not been printed, and some had not even been drafted. An accurate description of each enumeration district is essential to the correct enumeration of the population. Changes are constantly being made in the boundaries of the political divisions and subdivisions of each state; and the enumeration districts must be so arranged as to harmonize with these political units and to make possible the preparation of a total for the population of each. I refer to this because it is one of the most important pieces of preliminary work required for a census. Its proper performance requires an extensive correspondence with local officials throughout the country, and considerable personal field work. I believe I am safe in saying that at no census has it been properly and satisfactorily concluded before the time for the enumerators to begin work. This condition is, without doubt owing to the lack of appreciation of its importance. The lack of definite and positive understanding concerning the boundaries of the enumerators' districts caused delay and more or less confusion in the offices of the supervisors and many errors by the enumerators. There are also many other things that should be done before the actual work begins that never have been done.

CHANGES IN CENSUS LAWS

The law governing the Fourteenth Census differs in many respects from that providing for the Thirteenth Census. There are at least

five changes and groups of changes that seriously affect the work: (1) The provision for a census of Guam, Samoa, and the Panama Canal Zone; (2) the appointment of supervisors by the Secretary of Commerce upon the recommendation of the Director of the Census; (3) the advance of the date of the enumeration from April 15 to January 1; (4) provision for the amplification of the irrigation inquiry and for the enumeration of drainage projects; and (5) changes in the population and agricultural inquiries.

Aside from the law, the scope of the census and the organization decided upon by the Director were dissimilar in some important respects to the corresponding features of the Thirteenth Census. The appointment of the supervisors by the Secretary was an improvement over the method employed at preceding censuses. If the law had been enacted a year earlier, a much more satisfactory organization would have been possible. The accuracy of the entire census of population and agriculture depends upon the efficiency of the supervisors. Their temporary employment is the survival of the former custom of creating a temporary organization for each census. Some time I hope the practice will be abolished, and the work done by the regular trained employees of the Bureau. Such an arrangement will not only reduce the expense, but will greatly reduce the margin of error and advance the completion of the enumeration. Two districts, Porto Rico and Hawaii, were supervised, and the work in three or four others was completed, by the regular employees. In other cases it was necessary to station one or more of the regular census force in the office of the supervisor to insure a satisfactory enumeration. The position of supervisor is so temporary that the person appointed cannot, or in the majority of cases does not, give up his other employment. The census work, therefore, is secondary, and does not receive proper attention. It is needless to give examples of indifferent work on the part of supervisors. To have this, the most important piece of census work, done by temporary employees who have had no prior experience and who know nothing of census taking, is, to say the least, very poor administration.

The change in the date of the enumeration was made at the request of the Department of Agriculture, and also because it was contended that more people would be found at their usual places of abode in January than in April. I agree that if the enumerator is able to see the farmer in January he is more likely to get correct data concerning the operations of the farm during the preceding year than he would be from an interview in the following April. But the enumeration of the population is the principal object of the census, and the experience

at this census has convinced me that a more nearly perfect and a more rapid count of the people can be made in April than in January. It is true that during April and June, when the enumeration has heretofore been in progress, large numbers have been at summer resorts. But at this enumeration it was found that surprisingly large numbers were at winter resorts. Thousands who have their usual places of residence in the northern states spend the winter months in southern California, Florida, and other southern states. Some of them live in the south several months of each year, and it was difficult to determine their usual places of abode. In this respect the change complicated the work; certainly it did not simplify it.

The weather in the winter is a serious impediment to the work of the enumerators, especially in the rural districts, and it is probable that the change in the date increased the margin of error caused by defective enumeration.

THE CENSUS SCHEDULES

But few persons realize the importance of care in the wording of the census schedules. The Fourteenth Census covers population, with special schedules for the blind and deaf; agriculture, with a special schedule for animals in barns and inclosures not on farms; manufactures (including forest products), with 85 supplemental schedules; mining, with 44 supplementals; irrigation; and drainage. There are in all 138 schedules upon which data required for some branch of the census must be reported. There are hundreds of inquiries to be answered—not all by every individual, but some by all individuals. Each director, from General Walker down, has called attention to the necessity of simplifying and reducing the number of census inquiries, and has referred to the overburdening of the enumerators and the impossibility of obtaining correct replies to all the inquiries in the short time allowed for the work. Yet there is constant pressure to extend the census inquiries and to reduce the time allowed for the field work, so that the more complicated office work can be completed within the census period. The practice of relieving the enumerators of the schedules for manufactures, mining, irrigation, and drainage that has developed during recent censuses has tended to reduce their work, but at the same time the other schedules have been extended. The instructions to enumerators fill a pamphlet of more than 50 pages. It is unreasonable to expect men or women appointed for such temporary work at such low rates of compensation to take time even to read through such extended schedules and instructions. The applicants were required to prepare a formal application, to take a practical test,

and attend schools of instruction; but there were more than 86,000 enumerators to be instructed, and the instructions were necessarily more or less superficial. I, personally, instructed some classes, and could not do more than touch on the most important features.

We are now making every effort to compile a reasonably accurate census and to publish the results within the time required by the law. But our population and industries are increasing rapidly, and it will be impossible at subsequent censuses to do the work as now outlined. The number of inquiries must be reduced or the time extended. Mr. Durand, director of the Thirteenth Census, in a memorandum left for assistance at subsequent censuses, states that it is of the utmost importance to the success of a census that the schedules should be simplified to the last possible degree consistent with obtaining fundamentally essential information.

It is not an easy task to omit inquiries. The law directs that certain subjects shall be covered, and pressure is constantly being made to extend the scope of these inquiries and to add new ones. The files of the office are full of correspondence and reports of committees on the subject. To illustrate: There is no very clear authority of law for making an enumeration of poultry, either on farms and ranges or not on farms and ranges. The wording of the law of 1910 was that the schedules relating to agriculture shall include "number and value of live stock on farms and ranges; number and value of domestic animals not on farms and ranges." The Department of Agriculture has construed the words "live stock" to include poultry, and as the law specified "domestic animals" not on farms to be reported, poultry was omitted in 1910 from the schedule for barns and inclosures not on farms. In the law for 1920 the words "domestic animals" were omitted and the words "live stock" substituted. To one not acquainted with the technique of census work this appeared to be a perfectly harmless change, but it was presumably made on the supposition that an inquiry in regard to poultry raised in cities would or could be added to the schedule to be applied to barns and inclosures not on farms. Such an inquiry would increase the cost of the field work by about \$50,000 and add a proportional amount to the cost of the office work; in addition, it would increase the burden on the enumerators.

Important as the other inquiries may be, the reputation of the Census Bureau depends upon the speedy and correct announcement of the population. The population schedule for 1910 contained 34 columns, and for 1920, 29. The inquiries omitted were "Number of years of present marriage"; "Number born," and "Number now living," for children of each mother; "Whether out of work on April

15, 1910"; "Number of weeks out of work during year 1909"; whether the place reported was a "Farm or house"; "Whether a survivor of the Union or Confederate Army or Navy"; "Whether blind (both eyes)"; and "Whether deaf and dumb." At the present census the last two inquiries were covered by a supplemental schedule on which the enumerator recorded the name and address of each blind or deaf person. Thus there was apparently an elimination of nine inquiries from the 1910 schedule, two of which, however, were carried in different form on a supplemental schedule. On the other hand, the 1920 schedule contains four new inquiries, one of which relates to year of naturalization and the other three to mother tongue. Strictly speaking, however, the mother-tongue inquiry is not a new one, because, although the schedule for 1910 did not make any provision for it, the enumerators were instructed to report the mother tongue in the column calling for place of birth. This method was not satisfactory, and on the 1920 schedule separate columns were provided for mother tongue. Thus the actual net changes consisted in the dropping of seven inquiries and the addition of one.

The mother-tongue inquiry was technical and required great care to secure correct answers. The records of the Bureau contain the following recommendation by Director Durand concerning this inquiry:

"Another inquiry which it is probably desirable to eliminate is that with respect to mother tongue, except for persons born in a few foreign countries where there is a great mixture of population. This inquiry, which was considered the best available guide for determining racial stock, was provided for by an amendment to the census act, passed only a very short time before the enumeration. It was recommended by the Director of the Census, partly on account of the scientific value of the information, but more because of the insistent demand of the leading representatives of the races coming from Austria-Hungary. There is no question that the information would be of much scientific value if it could be obtained with accuracy and without unduly burdening the enumerator. Save with respect to a few countries, however, the return of country of birth itself is a very close guide to the racial stock of the people, and the additional information secured by the mother-tongue inquiry is not worth the trouble and expense it causes. For instance, persons reported as born in Italy are so nearly all Italians that there is practically nothing gained by distinguishing the few who may by chance have other mother tongues. The same is true of England, Scotland, Wales, and Ireland, of the Scandinavian countries, of Spain, and, in fact, of the larger part of the countries of the world.

"On the other hand, it is well known that there is a remarkable mixture of different races and mother tongues in Austria-Hungary, Germany, and Russia, and that in Canada there is a wide difference between the French-speaking and the English-speaking population. For example, to report the characteristics of persons coming from Austria-Hungary, without distinctions of race, is decidedly unsatisfactory, because of the wide difference in characteristics between the Germans, Poles, Bohemians, Magyars, and other races of that country. Both for scientific reasons and in order to meet the wishes of the people who have come to the United States from the

four countries above mentioned, it is undoubtedly desirable to retain the inquiry of mother tongue regarding them. The elimination of the inquiry with respect to persons born in other foreign countries would, however, very materially reduce the labor of the enumerators, without in any serious degree reducing the value of the returns."

The instructions to enumerators for 1920 contain a list of 63 principal languages, and the enumerators are expected to report many others.

Of all the inquiries those relating to the place of birth and mother tongue of the parents and to occupations were the most difficult to answer. A large proportion of the census reports are based on information obtained from the housewife. In many cases the wife was not certain about the country of birth of her husband's father and mother, and there was a much greater uncertainty when the answers were given by a third party, as was frequently the case. This lack of knowledge coupled with the changes in the boundaries of European countries following the war has, I am afraid, caused a large margin of error in the statistics on this subject. The increase in the number of defective reports is largely confined to the immigrants from the central and southern European countries.

Although a detailed analysis of the foreign element of the population is very important, we are certainly trying to gather too much information through the general enumeration. In view of the imperative necessity of reducing the number of inquiries, we should certainly be justified in confining the questions to the birthplace and mother tongue of the person reported.

Some of the inquiries are apparently very simple and easily answered, but in reality they require the exercise of considerable discretion and a personal conference with the individual enumerated. The one on "Color or race" is a good example. To answer this the enumerator must determine not only whether the person is black or white, but whether he is a mulatto. There are cases in which the same family has been enumerated as black at one census and as mulatto at a subsequent census. The enumerator must further determine whether the person is an Indian, Chinese, Japanese, Filipino, Hindu, Korean, or "all other," and insert the proper symbol. Sometimes it is difficult to decide the nationality even after a personal inspection. In Charles City County, Virginia, there is a community of several hundred, remnants of the original tribe of Chickahominy Indians. The Indian strain is considerably diluted and the language is practically lost; nevertheless they contend that they should be reported as Indians. Other citizens of the county, however, declare that they are not Indians and should be reported as Negroes. Some of these men came to the office in Washington for the purpose of urging that all members of the so-called tribe be enumerated

as Indians. Those that we saw certainly had pronounced Indian features; but the enumerators decided that not all of the tribe should be reported as Indians, and I imagine that no one can say just where the line of distinction was placed.

If the census were confined to a simple enumeration of the population with very limited information concerning its characteristics, the instructions to enumerators would be greatly reduced. It would then be much easier to obtain enumerators at the rates of pay the government is willing to offer.

There are many who look in holy horror at the suggestion to omit the inquiry concerning occupations. Since 1910 there has been a great amount of work done in the endeavor to perfect the census of occupations. Exhaustive lists of occupations have been prepared and the instructions for enumerators and for the office work carefully revised. The editing and tabulation have been made a distinctive feature and not carried on as a part of the individual census as heretofore. The editing of the schedules was started as rapidly as they could be released from the general population work. By November 15 there were 259 clerks engaged in the examination and the insertion of the symbols for the occupation punch cards. This force had been gradually and carefully built up, and we are in hopes that the statistics will be a more accurate presentation of our occupations than the office has been able to compile at any preceding census. The defects in the work, however, are fundamental. As in the case of the mother tongue, mistakes are made by the enumerators or by the persons who answer the inquiries. The returns for 1910 were bad enough, but it is my impression that those for 1920 were, in certain particulars, even more defective.

I fully appreciate the importance of statistics of mother tongue and occupations. At the same time, the population and industries of this country are growing at a constantly increasing rate. Industries are becoming more complex. The increase of 13,710,842 in our population that occurred during the past decade is necessarily accompanied by some corresponding ratio of increase in the agricultural, manufacturing, and other activities of the people. The time is rapidly approaching, if it is not now at hand, when there must be some radical changes made in our census methods. The suggestions that the time allowed for the work be indefinitely extended, that the pay of the supervisors and enumerators be materially increased, that more time and care be devoted to preparatory work, etc., are all good. They would probably result in a more scientific and instructive analysis of the data. But these changes would not enable the Bureau to meet the insistent demand for the publication of the results of the census shortly after the date to which they relate.

ANNOUNCEMENT OF POPULATION

It is impossible to give an explanation, satisfactory to the general public, of the reasons why the population of the United States cannot be announced until almost ten months after the date to which the figures relate; or why there is such a delay in the announcement of the totals for agriculture and manufactures. It is, or will shortly be, impossible to throw the census net over the entire population and all of their activities, bring the different corners into Washington, and there compile and announce the results as quickly as is desired. It will be necessary to subdivide and distribute the work. For example, the preliminary count of the population for which the total for the United States was published on October 7 was based on the count made by the supervisors, verified by a hand count in the office at Washington. The supervisor must count the number of individuals returned by each enumerator and state the total on the enumerator's pay voucher and also on a check slip accompanying his returns. When these reports reach the Washington office a rapid count is made by glancing over each sheet of the returns, and if the two counts agree, the total is accepted. With proper safeguards the totals could be assembled and made public by the supervisors before the work was sent to Washington. They would, of course, be preliminary and subject to revision, just as they are now. The method would have the great advantage of quick announcement, and would enable the supervisors to answer and dispose promptly of all criticisms of defective enumeration. Under the present method it is impossible in many cases to make an accurate check of the enumeration and to correct errors, if errors are found, because there are so many changes between the time of the count and the date of announcement.

The greatest reductions in the number of inquiries should be made in the schedules for agriculture and manufactures. Details on these subjects can be developed at the mid-decennial censuses and for manufactured products at the biennial enumerations. The entire omission of manufactures, and, if practicable, of agriculture also, from the decennial census would be an improvement. It would certainly enable greater accuracy and more rapid work in the enumeration of the population.

The principal processes involved in the taking of a census are the establishment by metes and bounds of the supervisors' and enumerators' districts (378 and 87,234 in number, respectively, at the Fourteenth Census); preparation of schedules and instructions; selection, appointment, and instruction of supervisors; selection, appointment, and instruction of enumerators and inspectors; distribution of blanks;

conduct of the enumeration; shipment of completed schedules to Washington; preliminary examination of schedules to see if all are received, and if there is any evidence of padding or irregularities; preliminary count of population; announcement of preliminary totals of population; disposition of requests for re-enumeration; editing schedules, or their preparation for the card-punching machines; punching the cards, verification of cards by machine and by personal inspection; verification of cards rejected by the machines; comparison of machine count with hand preliminary count; assortment of cards for machine tabulation; various runs of cards through tabulating machines; editing schedules for census of occupations; punching cards for occupations; machine tabulation of cards for occupations; preparation of final tables for printer.

USE OF MACHINERY

At this census machinery, both hand and power driven, is being used more extensively than at any preceding enumeration. It is employed in all three of the principal branches—population, agriculture, and manufactures. Necessarily, the processes differ in each branch; but they all are based on the same general principles.

The machines are not perfect or entirely satisfactory for census work. The punch used for the population card is the most unsatisfactory. The tabulating machine was developed in the Bureau, and is far in advance of any heretofore used. The commercial punch used in the work on agriculture and manufactures is not satisfactory because of the small number of items carried on each card. It requires 17 cards to carry all the items necessary to be punched from the agricultural schedule, and one for the live-stock schedule, thus increasing the number of cards to about 167,000,000.

This is the first time the card system has been used in the work on manufactures. Undoubtedly it will enable a more detailed presentation, but whether it will be as economical and lead to as early a publication as the systems used at prior censuses is questionable. The demand for more and more detail concerning the various products of manufacture has resulted in greatly extending the schedules. It has also encouraged the chief statistician in charge of the work to expand and indulge in a more elaborate presentation. I think this is a mistake. At the decennial periods the census of manufactures, if taken at all, should be greatly curtailed. It should, at least, be confined to the general schedule, and all supplemental special schedules omitted.

If the census of mines is taken in connection with that of manufactures, the line of demarcation should be more clearly defined than it

was at preceding censuses. The separation of the statistics of manufactures and mining is complicated by the work of the Geological Survey. The Survey makes annually a census of mineral production, and, naturally, we should expect its totals for the decennial census years to agree with those compiled by the Bureau of the Census. This is especially true if the two bureaus work in coöperation, as they have at the past two or three censuses. The Survey, however, very properly includes in its total many products which are primarily the result of manufacturing processes and which are included in the census of manufactures. At the census of 1910 they were also included in the census of mines. In other words, there never has been a clear-cut distinction in the census between manufacturing and mining. I do not know that there is a practical line of separation that can be uniformly applied, but I do believe it is possible to devise a more satisfactory method than the one used at the census of 1910.

CHANGES IN PROCEDURE

Many changes were made in the order of procedure at this census as compared with prior censuses. The most important of these was the publication of the figures for the minor civil divisions of each county as quickly as they were ascertained. These figures were used to build up the state totals, which were then announced. In 1910 the county and state totals and those for cities having 5,000 or more inhabitants were announced, but no chance was given the public to criticise the figures for the smaller divisions. The change enabled us to give these figures to the persons interested and to receive their criticism in time to correct errors and make minor adjustments. Many complaints of defective enumeration were received. A few were well founded; in such cases the enumeration was checked and the corrected totals carried into the printed reports. In 1910 the office did not have the advantage of this advance criticism; the totals were, as a rule, published as final. It was too late to make changes in the figures for the minor divisions, and very little checking of the enumeration was done.

MARGIN OF ERROR

Most of the error in census reports is due to defective field work. The office is constantly endeavoring to reduce this margin of error by improving the instructions to enumerators and agents, and by a closer supervision of the field force. The error with respect to the number of inhabitants, number of farms, number of manufacturing establishments, etc., is comparatively small. It increases in the replies to the

various inquiries on the different schedules. I believe that the greatest amount of error occurs in the replies to what are considered essential and well-constructed inquiries, but that relate to matters concerning which it is difficult for the enumerators to obtain information. The percentage of error increases with the difficulties encountered by the enumerators as well as with the number of questions. Practical experience in census taking is very helpful in the construction of schedules, and a wise discrimination in the selection of inquiries is essential to the success of the work.

The population of the United States was announced on October 7. This was twelve days later, relatively, than it was made public at the Thirteenth Census. This delay was owing to a change in methods which has resulted in a great deal of work being done before, which at the last census was done after, the announcement but before the publication of the bulletins. On October 7 the work was in far better shape to proceed with the publication of bulletins on population than it was at the corresponding date ten years ago.

CENSUS ADVISORY COMMITTEE

At this census the Bureau has had the privilege of conferring frequently with a committee composed of members of the American Statistical and American Economic Associations, and the advantage of their advice on all important matters. The committee has been consulted at every important stage of the work, and its recommendations have been almost uniformly followed. The committee has considered all the basic tables and many of the subsidiary ones. It has been mutually agreed that the text of the bulletins and reports shall be confined to the brief description of the tables, and that some of the tables contained in the reports of the Thirteenth Census shall be omitted from the Fourteenth Census, and many changes made in others. We shall retain all that is essential, and shall endeavor to put it in more logical form and to reduce the size of the reports. The state bulletins on population and agriculture that have been printed and distributed illustrate the character of the changes that have been made. For example, the bulletin for 1910 giving the number of inhabitants, by counties and minor civil divisions, for Massachusetts contained thirteen printed pages. The corresponding bulletin for 1920 has nine pages, and yet we believe it contains more essential statistics. There were two bulletins on agriculture for each state at the last census. At this census there will be but one.

A free discussion of policies and methods with trained men not in the federal service but who make constant use of government statistics

cannot but be helpful to the service, and I hope the committee will be continued until the end of the census period.

PUBLICATIONS

The preliminary totals for the population of all states, counties, cities, and minor civil divisions had been published on or before October 7. There are a number of factors that may be compared in order to determine the relative progress of the work at the different censuses; the rapidity with which copy for the final reports is sent to the printer is the most definite. At the census of 1910 copy for the first bulletin, giving statistics of population by minor civil divisions for New Jersey, was sent to the printer just 10 months and 25 days after the beginning of the enumeration. The first bulletin of this character sent to the printer at the Fourteenth Census was for Porto Rico, and it was sent to the printer just 4 months after the beginning of the enumeration. Within 11 months and 5 days after the beginning of the enumeration at this census we had sent to the printer copy for these bulletins for 31 states, Porto Rico, Hawaii, Guam, and Samoa, making a total of 35 bulletins. At the preceding census copy for only 2 bulletins was sent to the printer within 13 months and 14 days. By December 31, 1921, copy for the last minor civil division bulletin was sent to the printer, just one year after the beginning of the enumeration, which compares with 1 year, 6 months, and 22 days for the last Thirteenth Census bulletin of this character. For agriculture, copy for bulletins on 10 states has been sent to the printer, while none had been sent to the printer at the corresponding date of the Thirteenth Census. The tables for the second series of bulletins—those on the composition and characteristics of the population—have been established, and we shall soon begin to send copy to the printer for the different states. These bulletins will complete the reports in which the state is the primary unit. The final volumes on population will contain further details for certain subjects, such as race, nativity, age, marital condition. In these the classification is based on the subject, and the states, cities, and counties are subsidiary. In like manner the report on agriculture will contain special reports on race, nativity, and tenure of farmers, on live stock, selected crops, etc. Two series of reports will be published for manufactures, one by states and the other for selected industries.

CONCLUSIONS

The work has hardly proceeded far enough to enable us to say definitely how it will compare with preceding censuses in accuracy, dispatch, and cost, but the stages that have been completed, I believe, justify the following conclusions:

1. Either the period fixed by law for the completion of the census must be extended or the scope of the work greatly curtailed.
2. It was a mistake to advance the date of enumeration from April 15 to January 1.
3. Greater care should be taken to perfect the preliminary work.
4. The enumerators' districts should be finally and definitely described and established sufficiently in advance of the appointments to insure a proper understanding of the boundaries.
5. All schedules and instructions should be greatly reduced.
6. Manufactures and mining should be omitted from the decennial census or the inquiry limited to the number of persons engaged and the production; this on the understanding that there will be a complete census of manufactures at regular intervals during the intercensal periods.
7. Supervisors should be trained employees and not temporary appointees.
8. The preliminary count of the population for counties, cities, and minor civil divisions should be made in the offices of the supervisors and announced by the supervisors.

By the establishment of a permanent census office almost twenty years ago, the federal government definitely committed itself to a permanent program for census work. It has failed, however, to place in the Bureau the authority to establish a satisfactory organization, and to provide for the elimination of duplication in work of a similar character being carried on by other federal bureaus. These bureaus are constantly coming in contact over questions that never can be satisfactorily settled until the collection of statistics is centralized and a radically different scheme of organization established.

The Department of Agriculture collects data and compiles estimates pertaining to questions covered by the decennial and intercensal inquiries of the Census Bureau. Frequently the results of the census are not entirely satisfactory to the officials of the Department of Agriculture, and it endeavors to verify or establish the margin of error in census reports.

The United States Geological Survey makes an annual census of the production of minerals, and collects other statistics concerning our mineral industries. This comes in contact with our decennial census of mining.

The Bureau of Internal Revenue compiles statistics of the consumption and stocks of tobacco, which come in contact with those compiled by the Bureau of the Census.

Still other examples could be given of the lack of coördination in the statistical work of the bureaus. This condition, and the need of a better organization, covering the entire United States, looking to the collection of data concerning the population, resources, and industries of the country, lead to the conclusion that some scheme should be worked out for the appointment of local representatives in different

states or sections of states who would attend to all statistical work required by the federal government. Such an organization, if properly formed and placed under the supervision of one bureau, would go far toward eliminating the unsatisfactory features of the present system or lack of system. I believe that some scheme of this character was in the mind of Congress when it established the permanent Census Bureau, and I am in hopes that it will again be revived and carried into effect.